

COALITION PATTERNS IN THREE-PERSON  
FAMILY AND NON-FAMILY GROUPS

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## CHAPTER I

### DEVELOPMENT OF PROBLEM

The study of small face-to-face groups has increasingly occupied the attention of psychologists in their attempt to understand, predict, and control individual behavior. The influence of such theorists as Lewin (1935) has forced psychologists over the past few decades to begin looking at behavior within a social context. Within the larger framework of social psychology, with its emphasis on the behavior of individuals within groups, the literature on small groups has increased rapidly in recent years (Petrullo, 1962). As the investigation of ad hoc groups has become more sophisticated, other researchers have turned their attention to natural groups.

Social scientists have long been aware of the importance of primary family groups as a principal scene of socialization, and, thus, a major factor in the etiology of human behavior. While sociologists have theorized about families (e.g., Parsons & Bales, 1955), within psychology the study of families has received most of its impetus from investigators involved in the application of psychological principles in clinical practice (Ackerman, 1958; Handel, 1965). There is a growing tendency in the helping professions to view a disturbed individual as a representative of disturbed family relationships (Chaney, 1962). Research output in this area has increased to the point that a new journal, Family Process, was begun in 1962, dedicated to the study of

family groups. Haley (1962), in an early issue of that journal, forecasted that the next fifty years would be to the study of family groups what the previous fifty years have been to the study of individual behavior. Most psychological studies of families have dealt with clinic populations, however. Handel (1965), in his review of this literature, has cautioned against repeating the mistakes of individual psychology: resting theories of behavior primarily on data derived from clinic populations. Rather, the crying need is for rigorous investigation of non-clinic families.

It seems that the more sophisticated field of social psychology ought to provide an excellent methodological and theoretical basis for the study of family groups. However, as Haley (1962) has pointed out, this expectation is not confirmed. In general, it may be said that the psychological study of small ad hoc groups and the study of family groups have remained parallel and have not influenced each other greatly. In fact, Handel could cite only one study, that of Strodtbeck (1954), which sought to apply the methods of social psychology to the study of family groups. There is scant evidence permitting the generalization of the research findings and theoretical formulations of social psychology to the behavior of individuals in primary family groups. While the problems faced by family researchers are somewhat unique (Haley, 1962), it seems imperative that the study of family groups be related, as far as possible, to the broader context of social psychology, particularly to the more sophisticated research on small ad hoc groups. Methods have been developed in the study of these groups that have been utilized with family groups (Bales, 1950). In addition, theoretical formulations,

although limited in scope, are available which seem to be of direct relevance to the study of family groups. One such hypothesis which has been investigated in ad hoc groups (Mills, 1953) and in family groups (Strodtbeck, 1954) is the tendency of small groups, in process, to divide into smaller units.

Near the turn of the century Georg Simmel (1902) became fascinated with the function of numbers in groups. Simmel proposed that the dyad was the basic unit of social interaction and that larger groups would tend to subdivide into smaller units. The three-person group would, accordingly, divide into a stronger pair against a third. Von Neumann and Morgenstern (1944) in their Theory of Games and Economic Behavior allowed a place for a coalition or alliance between two members against a third in the solution of the three-person game. In addition to Mills and Strodtbeck, other researchers have investigated coalitions in three-person groups. Caplow (1956), basing his thinking on an economic model, hypothesized the types of coalitions which could form in the triad as a function of the perceived power of group members. Vinacke (1957, 1962) used a modification of a parlor game which permitted the manipulation of perceived power of group members and found some evidence in support of Caplow's predictions. The triadic groups did tend to divide into coalitions in the playing of the game. Haley (1962) developed a non-verbal method of measuring coalitions in three-person groups. There is evidence, therefore, to expect three-person groups to divide into coalitions. The tendency of the triad to segregate into a pair against a third may be a very basic differentiating tendency.



Only the studies by Mills and Strodtbeck, however, are directly relevant to a comparison of the formation of coalitions in family and ad hoc groups. This kind of comparison is a major concern of the present study. Therefore, a detailed consideration of Mills' and Strodtbeck's reports will permit the formulation of the present problem.

Basing his procedure on Simmel's (1950) and Von Neumann and Morgenstern's (1944) suggestions that the three-person group would divide itself into two against one, Mills did a blind analysis of 43 three-person discussion sessions involving student volunteers who were strangers. In sessions lasting approximately thirty minutes each, groups were asked to construct a single dramatic story from three TAT pictures. Each act was scored in sequence according to the Bales Method of interaction process analysis.

Deriving from these categories an index of support (RS) between the two most active members of the groups, he found that, as Simmel had predicted, the overall tendency of the groups was for the two more active members to form the pair and the least active member to become the relatively isolated third party. Further analysis by specific groups in relation to the total median RS allowed the division of the total sample into solidary, conflicting, contending, and dominant relationships. Each group was sorted into one of these four classes according to the type of relationship in the most active pair by comparing persons one and two and their support of each other to the median rate for that pair in the total sample. The patterns are as follows:

Support Type	<u>RS</u> 1 to 2	<u>RS</u> 2 to 1
Solidary	+	+
Conflict	-	-
Contending	+	-
Dominant	-	+

If the RS between the two most active persons is above the sample median (+), for that pair, the group is classified as solidary. If both are below (-), it is classified as conflict. In the contending pattern, the second most active man is below the median for that pair and the most active man above. For the dominant pattern this relationship is reversed.

In attempting to determine whether these power structures were stable, Mills examined the turnover in rank order of contributions initiated by type of pattern across time, dividing the sessions into three periods. Solidary patterns were most stable, the non-shifts being more frequent than expected by chance alone. Conflict pattern non-shifts could be attributed to chance. In the contending and dominant patterns the position of the most active member was stable while the others fluctuated.

In terms of gain or loss of support from the first to the final phase of the sessions, a second component of power structures, the solidary pattern showed the most radical shifts through time. The two more active members gained while the least active lost. The change was toward an accentuation of the relations existing at the beginning—a true coalition against the weaker third man. The conflict pattern showed a continuation of the characteristically low rate of support between

members. Mills concluded that the solidary pattern alone possessed the two characteristics of a genuine power structure, that is, internal differentiation of two against one and steady trends through time that coincided with this differentiation.

A final test dealt with shifts from one coalition pattern to other patterns. The solidary pattern tended to remain without change. The other, non-reciprocal, patterns tended to remain stable except for a tendency for the conflict pattern to shift to the solidary one and the dominant to the conflict. In Mills' groups the solidary pattern seemed to reflect fundamental dynamic forces in the three-person group.

Strodtbeck (1954) sought to relate these findings to family groups. While his report cannot be considered a replication of Mills' procedure in a strict sense, his comparison of data derived from three-person family group discussions indicated some sharp differences. A consideration of those aspects of his report of direct concern to this discussion may be summarized briefly: (1) Mills found that support exchange between the two most active members was high and quite similar, sharply differentiated from support exchange in other relations. Strodtbeck's groups did not exhibit these regularities in the distribution of support. In general, family groups exhibited less support activity. (2) When the two most active members were in conflict, the stability over time of rank order of contributions was not as low in family groups as in the ad hoc student groups. (3) In the solidary pattern Mills' found both intake and output of support for the low man to be lower than in any other circumstance. Strodtbeck failed to confirm this relationship, either by support intake or by a measure of decision

making power. The third man did not appear to be conspicuously worse off than the other two by either measure.

Two positive findings indicated similarities between families and ad hoc groups: (1) High-participating members tended to dominate decision making as Mills anticipated (although he had no measure of this). It is interesting in this regard to note that Riecken (1958) confirmed Bales' earlier finding (1953) that high participating members were more influential and received more support from the group than less active men presenting the same solution to a problem. (2) When the two most active members are solidary in their relation to one another, the stability of their rank participation is high in both family and ad hoc groups. In general, Strodbeck's results indicated that the tendency for the three-person group to divide into two against one was attenuated in family groups.

In summary, the major difference in the findings of these two studies was the failure of Strodbeck's families to demonstrate the regularities in support activity that Mills found in his college groups. The tendency for the three-person group to divide into two against one was attenuated in the family groups. Strodbeck's families showed, in general, much lower rates of support than Mills' groups. The other differences noted are probably contingent upon this general finding. However, several factors in addition to the family vs. ad hoc group difference may have been operating to influence Strodbeck's results.

1. Population.—Mills' subjects were all college males at Harvard, seeking part time employment. They were probably a quite

homogeneous population, especially in terms of intellectual capacity, educational experience, and socio-economic status. Strodbeck's families, on the other hand, were chosen of equal numbers of Jews and Italians of high, medium, and low socio-economic status persons. The families included under- and over-achieving sons. Data were analyzed without regard to these differences. Such an analysis prohibited an assessment of the contribution of these variables to support activity in his groups. Lastly, there does not seem to be any definitive reason why family groups should be expected to interact like Harvard men. A more exact evaluation of the generality of Mills' support patterns would be possible by comparing family groups with groups made up of the same individuals in simulated families composed of fathers, mothers, and sons, but not related. This procedure would provide comparison groups which looked like families but had no history. These groups could also be compared to another kind of ad hoc group made up of the same persons in peer groups.

2. Setting.—Mills' groups were observed in a laboratory setting. Strodbeck's families were visited in their homes and their interaction analyzed from tapes. While the latter procedure more closely approximates a natural setting, comparison of the two sets of data becomes complicated. O'Rourke (1963) has presented evidence that sex-role support and dominance relationships between parents and children differ considerably according to conditions of observation.

3. Task.—Mills' subjects were instructed to construct a single dramatic story from three TAT cards. Strodbeck's families were required to reach a consensus on questions of parent-child relationships

stated in such a way as to involve two alternative solutions.

Strodtbeck suggested in his discussion that task variables might have contributed to the differences in support activity observed between the two studies. A preliminary scaling of these tasks by a method developed by Shaw (1963) showed no significant differences along six dimensions: difficulty, cooperation requirements, solution multiplicity, intellectual-manipulative requirements, intrinsic interest, and population familiarity. While these six dimensions do not exhaust the number of possible dimensions, the differences were so minor that further investigation along the lines of task variables did not seem warranted. It seems unlikely that task differences used in these two studies accounted for the differences in support activity.

4. Initial agreement-disagreement.—It may be assumed, since Mills' subjects had no prior history of interaction, that the formation of coalitions within the triad was a function of on-going processes of group development. Strodtbeck's family groups were asked to discuss and reach a consensus on nine questions on which previous questionnaires had shown the groups to be in disagreement. On each of the tasks for discussion, two of the members were in agreement against the third, the odd man being rotated around the group so that each of the members was the low man on three tasks. It becomes obvious that the family groups were faced with an additional task not faced by the ad hoc groups, that of resolving a built-in conflict of opinion. Bennis and Shepard (1956) have hypothesized that the mature group has accomplished the division of authority and responsibility among its members. The family group, with its long history of association, also might be expected to have

relatively standard ways of relating which might be challenged by this experimental procedure. Haley (1964), however, has found that normal families, in contrast to disturbed families, do not adopt rigid relationship patterns but tend to adapt to situations flexibly. Some of Strodbeck's families could be considered problem families, in the sense that they had an under- or an over-achieving adolescent as a member of the triad. These families may have reacted rigidly to disagreement. It may be that the family groups were not so much concerned with reaching a consensus re the tasks per se as they were involved in resolving an experimentally introduced challenge to whatever methods of dealing with each other the members typically employed. This prior disagreement, built into Strodbeck's operations, may have influenced support activity in ways not present in Mills' procedures. Accordingly, if normal families—following Haley's suggestion—are compared when in initial agreement and disagreement, a better estimate of the generality of Mills' findings can be accomplished.

With the above considerations in mind, it was the purpose of this study to investigate the formation of coalitions in family, simulated family, and peer groups as a function of initial agreement or disagreement. In order to minimize population differences, family groups were drawn voluntarily from a relatively homogeneous high-school population and comparison groups were derived from the same individual subjects. All groups interacted in discussion tasks in a laboratory setting. By these operations it was intended to provide a more direct comparison of Mills' findings of support patterns in three-person groups, while keeping to a minimum the possibly confounding variables of setting,



population, and task. The tendency of three-person family and non-family simulated and peer groups to divide into coalitions of two against one will be considered under the rubric of the following hypotheses:

Hypothesis 1: Coalitions in three-person groups can be described by Mills' patterns of support in the more active pair (solidary, conflicting, contending and dominant relationships). These patterns will be internally differentiated and temporally stable. The solidary pattern will epitomize the genuine coalition.

Hypothesis 2: Support activity in these groups will vary as a function of the experimental variables of initial agreement-disagreement and group composition (family, simulated, peer).

Hypothesis 3: Support activity of fathers, mothers, and sons in simulated and peer groups will be similar to the activity of these persons in family groups.



## CHAPTER II

### METHOD

Subjects.—Thirty-six families composed of mother, father, and teenage son participated on a voluntary basis. No restriction was placed on family size, but only these three members were asked to participate. Participants were contacted from lists provided by local high schools, as far as possible from the senior classes. Thirty-four of the teenage boys were seniors, one was a junior, the other a sophomore. Ryder (1966) found no age differences, in this range, in certain interaction variables. The families were contacted by phone and asked to participate. If they were at all interested, the study was explained to them in detail. Appendix A gives a sample communication. As far as could be determined, participants were not in psychiatric treatment, did not come from broken homes, and were not in trouble with the legal authorities. Certain characteristics of the population are summarized in Table 1. Most of the families came from professional and self-employed groups, approximating the upper middle socio-economic range. They were primarily Protestant, although Roman Catholic and Jewish families were represented. All were Caucasians of at least second generation.

Apparatus.—The laboratory setting was a group of three small rooms and one large conference room of the Outpatient Clinic, University of Florida Teaching Hospital. Each room was furnished with a tape recorder and chairs for the participants in a circle near the center.

TABLE 1  
CHARACTERISTICS OF FAMILIES  
(n=36 groups)

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Annual family income	
Range. . . . .	\$6,000-35,000
Mean . . . . .	\$13,048
Religious preference	
Protestant . . . . .	31
Roman Catholic . . . . .	4
Jewish . . . . .	1
Mean education in years	
Fathers. . . . .	14.8
Mothers. . . . .	13.5
Mean age of family members	
Fathers. . . . .	46.3
Mothers. . . . .	44.8
Sons . . . . .	17.3
Mean number of children. . . . .	3.5
Mean birth order of sons . . . . .	1.9

---

Off to one side was a chair for the observer who recorded the interaction.

The interaction was scored by Bales' (1950) Method of interaction process analysis, which utilizes information regarding the initiator and recipient of each act. Each act in sequence was assigned to one of the following twelve categories:

## Bales Categories

a

1. Shows solidarity, raises other's status, gives help, reward:
2. Shows tension release, jokes, laughs, shows satisfaction:
3. Agrees, shows passive acceptance, understands, concurs, complies:

b

4. Gives suggestion, implying autonomy for other:
5. Gives opinion, evaluation analysis, expresses feeling:
6. Gives orientation, information, repeats, clarifies, confirms:

c

7. Asks for orientation, information, repetition, confirmation:
8. Asks for opinion, evaluation, analysis, expression of feeling:
9. Asks for suggestion, direction, possible ways of action:

d

10. Disagrees, shows passive rejection, formality, withholds help:
11. Shows tension, asks for help, withdraws out of field:
12. Shows antagonism, deflates other's status, defends, or asserts self:

The author and two fellow graduate students in psychology served as observers, scoring three each of the nine groups in each session according to this system. While this procedure does not permit a reliability check, observers were trained, using Bales' suggestions, prior to scoring the experimental sessions, until rank order correlations between raters of .90 and above were achieved. This training procedure is described in Appendix B. Frequent "refresher" sessions were conducted as the experiment progressed to assure that unitization and categorization was being done in a similar manner. It is assumed that the observers were reliably similar. Observers were randomly assigned to experimental rooms for each session.

A checklist of 32 items was assembled, composed of opinion statements. The content of the items was selected as seeming relevant to the

concerns of family groups having teenage sons. Secondly, the items were chosen so that about half of them would be likely to generate a difference of opinion within the family and half would probably be agreed upon. Several families were asked to check their opinions prior to the experimental sessions, and the items seemed to meet these requirements. The checklist, as given in Appendix C, was used in assigning items to the groups for discussion.

Procedure.—A 3 x 2 factorial design was employed involving three group compositions (family, simulated family, and peer groups) and two levels of initial agreement (agree and disagree). Each subject served as a member of all three levels of group composition. This variable was, therefore, represented by correlated samples. Half of the groups in each level of group composition were assigned an item for discussion on which the group was in initial agreement, and the other half were assigned an item on which one member initially disagreed with the other two. The variable of initial agreement-disagreement, therefore, was represented by independent samples. Thus, there were 18 groups in each cell as follows:

	Agree	Disagree
Family	18	18
Simulated	18	18
Peer	18	18

There were a total of 12 sessions with three families being tested simultaneously. Agree-disagree was assigned randomly to each of the sessions and the families assigned to the sessions in order as they volunteered to participate. Six orders of family, simulated, and peer

were represented twice each in the design. These orders were also randomly assigned to the 12 sessions, under the expectation that order effects, if present, would be balanced out across the design. This schedule is presented in Appendix D.

When the families arrived, they were assembled in the large conference room and seated as family groups. After initial greetings, each member was asked to fill out the opinion checklist. Subjects were cautioned not to compare answers.

After the lists had been completed, items were selected for discussion sessions. For the agree condition all persons in any given group were in initial agreement. For the disagree condition, in family groups and simulated family groups, the teenage boy was the minority member. The minority position was assigned in peer groups at random. The discussion items were selected so that no person discussed the same item more than once.

While two observers were assigning discussion items, another explained the general procedure to the participants. Each person was given a code number and a routing sheet which indicated the sequence of rooms for each successive part of the experiment. Subjects were asked to direct their conversations to the members of the group rather than to the observer who would be sitting in the room off to one side. After the initial instruction period, subjects assembled in the appropriate rooms. The following instructions were read prior to the actual discussion sessions: "Your task is to reach a consensus of opinion on the item you have been given for discussion. Since we are also interested in the quality of your argument in support of your group opinion, please

try to use the entire ten minutes. Before beginning, please say your code number to identify your voice on the tape recording. You may begin your discussion immediately thereafter. You have ten minutes to finish your discussion."

After ten minutes the discussion was terminated by the observer. Subjects then reassembled for the next part of the experiment and the same procedure was repeated until all subjects had participated in all three kinds of groups. When each person had participated in all three levels of group composition, the families were reassembled in the conference room. One observer explained further the major interest of the experiment, the tendency of groups to divide into coalitions. The families were thanked for their participation, promised a summary of the results of the study, and dismissed.

## CHAPTER III

### RESULTS

The analysis of support activity within these groups will principally follow that of Mills, for ease in comparing his results and Strodtbeck's with the present findings. The general thesis that three-person groups tend to divide into a stronger pair against a weaker third man will be considered within the framework of Mills' patterns of support. The major part of this analysis will deal with the occurrence of these patterns, their internal differentiation, and their stability over time. Within this broader context the influence of prior agreement and disagreement in family, simulated, and peer groups will be evaluated. A final step in the analysis, not possible in the earlier studies, will compare the activity of fathers, mothers, and sons within the conditions of this experiment.

#### The Occurrence of Support Patterns

The first phase of the analysis of support patterns is the calculation of indices of support rates (RS). In the three-person group there are six possible combinations of initiator and recipient for each Bales act (1-2, 1-3, 2-1, 2-3, 3-1, 3-2). For each of these combinations the total number of acts was tallied for each ten-minute session. The ratio RS was calculated from these totals for each pair of subjects by the formula:

$$RS = 100 \frac{a - d}{b + c}$$

where, referring back to the description of the Bales categories above: (a) refers to positive emotional acts, categories 1, 2, and 3; (d) to negative emotional acts categories 10, 11, and 12; (b) to giving task information, categories 4, 5, and 6; and (c) to asking for task information, categories 7, 8 and 9. The index RS is a measure of the tendency of one person to support another, since it takes into account the relative amount of positive and negative emotional acts in relation to task relevant contributions. Throughout this report person numbers refer to activity level: person one is most active; person two, middle active; and person three, least active.

#### Support Patterns in the Total Sample

From the individual indices of support, median indices of support were computed for the entire sample across all variables. These values are given in matrix form in Table 2. Following Mills' procedure, it was possible to assign each of the individual groups to one of the support patterns (solidary, conflicting, contending, or dominant) on the basis of these indices of support. This categorization is done by comparing the indices of support between the two most active persons with the total sample median for that pair. The occurrence of each of these support patterns in the total sample is given in Table 3. Chi square values of deviations in the frequencies of occurrence for each of these patterns in the three kinds of groups is given in the right marginal column of Table 3. Inspection of this table indicates no reliable difference across these groups in the occurrence of these patterns of support.



TABLE 2  
 MEDIAN RATES OF SUPPORT IN THE TOTAL SAMPLE  
 (n=108 groups)

Rank as Initiator	Rank as Recipient		
	1st	2nd	3rd
1st	-	7.1	5.9
2nd	14.1	-	14.2
3rd	19.5	9.2	-

TABLE 3  
 CONTRIBUTIONS TO CHI SQUARE: FREQUENCIES OF SUPPORT PATTERNS  
 BASED ON TOTAL SAMPLE MEDIAN RATES OF SUPPORT

Support Pattern	Group Composition			$\chi^2$
	Family	Simulated	Peer	
Solidary	8	11	10	.48
Conflict	13	6	5	4.75
Contending	7	7	11	1.33
Dominant	8	12	10	.80
				Total = 7.36*

\*p < .30 (6 df)

Thus, it is possible for these three-person groups to be categorized on the basis of the support rates between the two most active members as were Mills' groups. The groups do tend to divide into a pair of active members and a less active third person. Inspection of Table 2,

however, does not indicate, when total sample median support rates are considered, that the third man received less support than the more active second man. He receives only slightly less support from the first man than does the second, while he receives from the second man as much support as does the first man.

Initially, then, the general thesis that the three-person group tends to break up into two against one, a more active coalition and a less active third, is challenged. For, while the groups can be described by Mills' patterns, the position of the third man does not seem to be any worse than the more active members in the relative amount of support he receives.

#### Support Patterns in Family, Simulated, and Peer Groups

A better evaluation of the tendency of these groups to divide into coalitions, as far as the purpose of this paper is concerned, involves a comparison of support activity in the family, simulated, and peer groups when separate median indices of support are calculated for each type group. These indices are presented in Table 4. From these separate median rates of support the groups were again categorized by the support patterns in the more active pair. These frequencies are given in Table 5, with chi square values presented in the right marginal column. Again there is no reliable difference among family, simulated, and peer groups in the occurrence of these patterns.

This finding is consistent with Mills' that three-person groups can be described by the activity level of the two most active persons. But, the question of whether these groups can be said to form a

TABLE 4

MEDIAN SUPPORT RATES BETWEEN PERSON PAIRS IN FAMILY,  
SIMULATED, AND PEER GROUPS

Pair	Group Composition		
	Family	Simulated	Peer
1-2	5.5	5.5	9.3
1-3	-5.5	8.5	9.2
2-1	5.5	14.7	15.5
2-3	0	15.5	20.5
3-1	0	33.0	29.2
3-2	0	15.5	33.0

TABLE 5

CONTRIBUTIONS TO CHI SQUARE: FREQUENCIES OF SUPPORT PATTERNS BASED  
ON FAMILY, SIMULATED, AND PEER MEDIAN RATES OF SUPPORT

Support Pattern	Group Composition			$\chi^2$
	Family	Simulated	Peer	
Solidary	9	8	8	.27
Conflict	10	6	8	1.00
Contending	8	12	10	.80
Dominant	9	10	10	.07
Total =				2.14*

\* $p < .90$  (6 df)

coalition of this more active pair against the least active member requires closer examination of the rates of support exchange within these three-person groups. Before proceeding with this analysis, however, the meaning of the measure of support ought to be considered more carefully.

Table 4 gives the median RS for each pair based on activity level in the groups. A positive score indicates the rate by which the initiator tended to support the acts of the recipient. For example, person one supported person two in the family groups with a RS of 5.5. While these scores are index scores based on the relative amount of support activity in relation to all other acts, they may be roughly interpreted as percentage scores. A positive score means, for this example, that roughly 5.5 per cent of person two's acts were supported by person one. A negative score, as person one to person three, means that person one tended to oppose the acts of person three approximately 5.5 per cent of the time. A zero score, on the other hand, typically means that the originator tended to respond to the recipient predominantly in neither a supportive nor non-supportive manner, or that this interaction was either minimal or primarily task relevant.

#### Group Composition and Agree-Disagree

Before proceeding to the further considerations involved in the patterns of support, i.e., the position of the third man and the stability of the patterns, the effect of the major variables of group composition and initial agreement-disagreement on support activity must be evaluated.

Strodtbeck compared family median RS with Mills' rates for ad hoc groups and found a rank order correlation of  $-.67$ , a disconfirmation of the rates of support found in ad hoc groups. In general, Strodtbeck's families exhibited lower median support rates than did ad hoc groups. When this comparison is made for the present groups, a similar picture emerges. Rank order correlations (rho) for the support indices presented in Table 4 are given in Table 6. A comparison of these coefficients reveals that only simulated and peer groups are

TABLE 6

RANK ORDER CORRELATIONS BETWEEN SUPPORT RATES IN FAMILY,  
SIMULATED, AND PEER GROUPS

Group Composition	Family	Simulated	Peer
Family	-	-.17	.08
Simulated	-	-	.84*

\* $p < .05$ . The distance between this coefficient and the other two was significant ( $p < .01$ ) when tested by Fisher's z-transformation (Lindquist, 1940), treating rho as equivalent to r, by the formula:

$$t = \frac{z_1 - z_2}{\sqrt{\frac{1}{N-1}}}$$

significantly correlated. The amount of variance common to family groups and the other two groups was quite low. Peer and simulated groups tended to exhibit support activity in a similar manner, while support within the family groups tended to be lower. These results tend to confirm Strodtbeck's finding that support in family groups was lower

than in ad hoc groups. This conclusion is even stronger when it is remembered that all groups were composed of the same persons in the same setting doing a similar kind of task.

That family groups exhibited less support activity than simulated and peer groups is further substantiated by the analysis of another measure of support activity defined by Mills as the rate of total support intake (RTSI). This index is similar to RS as explained above, but is a combined measure of the tendency of the other two members in a group to support a particular person. The rate of total support intake for person one, for example, was calculated for each group by the formula:

$$RTSI = 100 \frac{(a_{21} + a_{31}) - (d_{21} + d_{31})}{(b_{21} + b_{31}) + (c_{21} + c_{31})} .$$

All supportive acts (a) directed toward a person are subtracted by all negative emotional acts (d) and divided by all task relevant acts (b, c) directed toward him. This ratio, multiplied by 100, gives a composite indication of how a particular person fared in a group as far as support received from the other members is concerned. A positive, negative, or zero score means essentially the same as for the index RS explained above.

A Lindquist Type III (Lindquist, 1953) model was used for the analysis of these data, treating agree-disagree and activity level as between subject variables and group composition as a within subjects variable, since these groups were composed of the same individuals in different combinations. The results of this analysis are summarized in Table 7. Only the group composition variable was significant ( $p < .01$ ).

TABLE 7  
ANALYSIS OF VARIANCE: RATES OF TOTAL SUPPORT INTAKE

Source	ss	df	ms	F
<u>Between Ss</u>	394,000.33	107	3,682.25	
Activity (B)	16,114.96	2	8,057.48	2.19
Agreement (C)	2,181.51	1	2,181.51	.59
B X C	2,087.94	2	1,043.97	.28
Error (b)	373,615.92	102	3,662.90	
<u>Within Ss</u>	425,482.50	216	1,969.83	
Group Composition (A)	21,591.42	2	10,795.71	5.65*
A X B	7,722.34	4	1,930.58	1.01
A X C	831.79	2	415.89	.29
A X B X C	6,157.17	4	1,539.29	.81
Error (w)	389,179.78	204	1,907.74	
<u>Total</u>	819,482.83	323		

\* $p < .01$

The failure of the agree-disagree variable to reach significance may have been due to the mild nature of the disagreement generated by the discussion items. The failure of the activity level position variable to reach significance may have been due to the fact that these activity positions did not remain constant across the groups. This was a post hoc categorization rather than a treatment variable and may have been masked by subject variability, which also may have increased the between subjects error term.

Significance tests between groups in the within variable of group composition substantiates further the observation that family groups

TABLE 8  
MEAN RATES OF TOTAL SUPPORT INTAKE

	Group Composition		
	Family	Simulated	Peer
RTSI	16.21	32.59	34.33

TABLE 9  
VALUES OF  $t$  FOR DIFFERENCES BETWEEN MEAN RATES OF TOTAL SUPPORT  
INTAKE IN FAMILY, SIMULATED, AND PEER GROUPS

Group Composition	Family	Simulated	Peer
Family	-	2.75*	3.05*
Simulated	-	-	.29

\* $p < .01$ , where:

$$t = \frac{M_1 - M_2}{\sqrt{2ms_{\text{error}(w)/Nw}}}, \text{ (Lindquist, 1953).}$$

exhibit significantly less support activity than the comparison groups. Mean RTSI indices are given in Table 8 and the corresponding t-tests in Table 9.

#### Internal Differentiation of the Patterns of Support

Now that the occurrence of support patterns has been considered, and the contribution of initial agreement-disagreement and group composition variables to the rates of support activity within these groups, the next task is to assess more carefully the position of the minor member of a three-person group. For a pattern to qualify as a genuine coalition pattern, the



least active man ought to differ from the more active pair in the support he receives and gives. The data used in assessing the internal differentiation for these patterns are summarized in Table 10. Mean indices of support (RS) for each of the relevant person combinations is given as the mean of all groups in a particular support pattern for each cell of the design. Mean support intake is the mean RTSI of all persons in a particular cell. RS values for these pairs tends to be more extreme than those reported in Table 5 since the latter are medians and less sensitive to the extremes of the distribution. Inspection of Table 10 indicates that the mean RTSI within family groups tends to be lower than for the other groups. In the conflict pattern support received by all members in families is in a negative, or opposing, direction. This trend is accentuated in the disagree condition for families. Judging from the relatively comparable rates of exchange between persons in the other patterns in family, simulated, and peer groups, the conflict pattern seems to be the chief factor contributing to the decreased support activity noted earlier in family groups. While initial agreement-disagreement was not a significant variable in the analysis given in Table 7, family groups appear to be much less positive in situations where conflict and disagreement are present among the members.

It is possible to assess the position of the third man in these groups by comparing his relative support intake (RTSI) to the mean RTSI for a particular pattern. Because of the low frequencies in some cells, this analysis combines family, simulated, and peer data. Mean RTSI for the total sample by support patterns are reported in Table 11. Table 12 compares the rates of support received by the third man in relation to the



TABLE 11  
MEAN RATES OF TOTAL SUPPORT INTAKE  
BY SUPPORT PATTERN

Support Pattern	Mean RTSI
Solidary	48.9
Conflict	5.4
Contending	24.4
Dominant	30.2

TABLE 12  
ASSOCIATION BETWEEN SUPPORT IN THE STRONGEST PAIR AND SUPPORT IN  
OTHER RELATIONSHIPS

Pattern	Rank of Initiator	Contributions to <u>chi square</u> of rates of support deviations regarding the third man members as recipients		
		1st	2nd	3rd
Solidary (n=25)	1st		(+)	(-) 6.76**
	2nd	(+)		(-) 4.84*
	3rd	(-) 1.00	(-) 1.00	
Conflict (n=24)	1st		(-)	(-) 8.16**
	2nd	(-)		(+) 0
	3rd	(+) 1.66	(-) 6.66**	
Contending (n=30)	1st		(-)	(-) 6.53*
	2nd	(+)		(-) 4.80*
	3rd	(-) 5.33*	(-) 1.33	
Dominant (n=29)	1st		(+)	(-) 18.24**
	2nd	(-)		(-) 1.68
	3rd	(-) 1.68	(-) 4.17*	

\* $p < .05$  (1 df)

\*\* $p < .01$  (1 df)

dominant pair according to these sample means. Chi square values are based on the number of times the RTSI for the least active man is above or below the mean RTSI for a particular support pattern.

In the solidary pattern, the third man tended, beyond chance expectation, to be opposed by both members of the more active pair. His support of them was in a negative direction, although it did not reach significance.

In conflict patterns, the third man was actively opposed by the first. Interestingly, there was some tendency for him to support the first man, in spite of the latter's opposition. Although he was neither opposed nor supported by the second man, the third man significantly opposed the second.

In contending patterns, the third man was also opposed by the active pair, but his opposition to the first man tended to be more frequent than chance. This is consistent, of course, with the non-reciprocal nature of this pattern.

Dominant patterns showed the third man being opposed by the first at a highly significant rate. He was not opposed by the second man, although he tended to oppose the second man.

For this sample, therefore, in all four patterns, the tendency was for the least active third member to be opposed by the more active pair. He tended either to oppose or only moderately support the pair. In short, the least active member of these groups was consistently in a relatively weak position, both in his intake of support and in his support of other members.

In contrast to the conclusion drawn from inspection of sample median RS (see p.21 above), the general thesis that three-person groups

tend to divide into a more active pair against a third seems to be confirmed for this sample by this analysis. Regardless of the pattern of support relationship between the two more active persons, however, more often than chance the third man will be found in an unfavorable position. These results do not fully replicate Mills' findings, however.

Mills found for his groups that only the solidary pattern resulted in the third man's being firmly opposed by the more active pair. In the solidary pattern alone did he firmly oppose the coalition. He found, in general, that the other patterns showed no consistent trend established by the least active member. From the present results, however, it appears that any of the patterns could qualify as a genuine coalition of the active pair against the third. While patterns showed internal differentiation—the first requirement of a genuine coalition—the question whether these patterns are genuine coalitions also requires an evaluation of the temporal stability of the patterns over time.

#### Temporal Stability of Support Patterns

Mills examined temporal stability as a second major attribute of a genuine coalition pattern. As a first aspect of temporal stability, he compared the turn-over in rank order of activity from the first to third portions of his group records. Since our groups were of much shorter duration, the following analysis was done by dividing the record into two parts and examining the relative position of each person in part one and part two of the record.

For each support pattern a matrix was set up, separating the patterns according to group composition. These matrices are given in Table 13. Along the vertical axes is the activity position of the participants in

TABLE 13

TURNOVER IN RANK ORDER OF CONTRIBUTIONS INITIATED BY TYPE OF PATTERN

Pattern	Family			Simulated			Peer		
Solidary	1	2	3	1	2	3	1	2	3
	1	5	3	1	4	3	1	5	1
	2	1	4	2	3	4	1	2	4
	3	3	2	3	1	1	6	3	1
	$p(N-S \geq 13) = .054$			$p(N-S \geq 14) = .005$			$p(N-S \geq 13) = .017$		
Conflict	1	2	3	1	2	3	1	2	3
	1	2	7	1	2	4	0	1	6
	2	6	2	2	3	1	2	2	3
	3	2	1	3	1	1	4	3	0
	$p(N-S \geq 11) = .352$			$p(N-S \geq 7) = .315$			$p(N-S \geq 12) = .763$		
Contending	1	2	3	1	2	3	1	2	3
	1	5	2	1	8	2	2	1	5
	2	1	6	2	2	6	4	2	5
	3	2	0	3	2	4	6	3	0
	$p(N-S \geq 17) = .00007$			$p(N-S \geq 20) = .012$			$p(N-S \geq 18) = .001$		
Dominant	1	2	3	1	2	3	1	2	3
	1	1	7	1	5	3	2	1	5
	2	7	1	2	2	5	3	2	3
	3	1	1	3	3	2	5	3	2
	$p(N-S \geq 9) = .500$			$p(N-S \geq 15) = .028$			$p(N-S \geq 11) = .352$		

\*N-S = non-shifts. Person numbers in vertical axes refer to activity position in part one of the record, horizontal axes to activity position in part two.

part one. The respective position in part two is given along the horizontal axis. The cells in the matrix indicate the number of times a person who maintained a certain relative activity level in part one occupied each activity position in part two. Summing the frequencies in the main

diagonals gives the number of constancies of non-shifts (N-S) in a particular cell. The probability of obtaining a certain number of non-shifts can be determined by the use of a probability model used by Bush and Mosteller (1954) in the solution of the matching problem. The formula is given as:

#### Matching Formula

$$z = \frac{(N-S) - (\overline{N-S})}{\sqrt{\sigma^2_{N-S}}}$$

Where:

N-S = Number of obtained non-shifts

$\overline{N-S}$  = Mean number of non-shifts in rank order = np

$$\sigma^2_{N-S} = npq \frac{n}{n-1}$$

$$p = \frac{1}{R}, q = \frac{R-1}{R}$$

R = Number of ranks

n = Total number of Ss in all groups of any given pattern.

Inspection of Table 13 shows the solidary pattern to be temporally stable for simulated and peer groups. Its stability approached significance in family groups. Contending patterns were stable in all groups, particularly in family groups. Conflict patterns in all groups tended to be unstable. Dominant patterns were stable only in simulated groups.

A comparison with Mills' results shows some similarities and contrasts. Solidary patterns were stable in both samples for ad hoc groups but not significantly so for these family groups. Conflict patterns were unstable in both samples. Findings which did not confirm Mills' results included the stability of the contending pattern in this sample

and the somewhat lower, but still significant, stability of the dominant pattern in simulated groups. In both these patterns Mills found the position of the most active man to be stable while the others fluctuated. Where these patterns were stable in the present sample, the tendency was for all activity positions to be stable.

For families, the only strongly stable pattern was the contending. As with the analysis of mean rates of support intake (RTSI), families seemed to exhibit support activity which differed from simulated and peer groups, while the latter tended to be similar.

A second component in evaluating the stability of support patterns is the stability of the internal differentiation of support activity across time. Since there was no reliable difference between initial agreement-disagreement in mean rates of total support intake, only combined data for family, simulated, and peer groups, respectively, are reported. Mean net gain or loss in support intake between parts one and two of the interaction record is given in Table 14. The plus and minus signs before each value indicate the direction of net gain or loss. The plus and minus signs in parentheses indicate the modal direction of gain (+) or loss (-). Chi square values for these frequencies of gain or loss are reported in the last column of the table, summing across activity levels.

The solidary pattern in family groups, across the board, showed a significant difference in the number of gains and losses, with a modal tendency for all persons to gain in support. However, the second man lost from part one to part two in the net amount of support he received. For a stable coalition, the third man, not the second, should have lost. A similar picture emerges for simulated groups, although the number of



TABLE 14  
TEMPORAL GAIN OR LOSS IN SUPPORT

Pattern	1st	2nd	3rd	$\chi^2$
<u>Family</u>				
Solidary	+23.4 (+)	-24.8 (+)	+32.2 (+)	4.48*
Conflict	- 1.6 (+)	-14.7 (+)	-22.9 (=)	2.13
Contending	+16.2 (-)	+30.2 (+)	+15.2 (-)	3.00
Dominant	+43.7 (+)	- 5.1 (+)	+ 4.4 (+)	4.48*
<u>Simulated</u>				
Solidary	+66.9 (+)	+ .7 (-)	+103.6 (=)	.33
Conflict	+31.3 (+)	-15.4 (=)	+ 16.2 (+)	4.55*
Contending	- 1.1 (=)	+14.8 (+)	+ 47.1 (+)	2.00
Dominant	+52.7 (+)	- 2.3 (-)	- 1.1 (-)	0.00
<u>Peer</u>				
Solidary	+89.4 (+)	+30.2 (=)	+30.2 (+)	1.50
Conflict	-31.6 (-)	- .9 (=)	+ 5.4 (+)	0.00
Contending	+22.3 (+)	- .2 (+)	+37.5 (+)	0.00
Dominant	-12.2 (-)	+14.5 (+)	+10.2 (=)	6.53**

\*p < .05 (1 df)

\*\*p < .01 (1 df)

gains and losses did not differ beyond chance expectancy. In peer groups the second man gained rather than lost. These results do not confirm Mills' findings for the solidary pattern, however. He found that the two active members continued to gain support, while the third man lost.

Conflict patterns in family and peer groups resulted in a low, predominantly negative exchange of support activity, and the frequencies of gains and losses did not reach significance. In simulated groups more subjects gained than lost. Once again the middle active person tended to lose in net support received.

Contending patterns did not show significant differences in the number of gains and losses. In families, while there was a net gain in all positions, the contending pattern tended to reverse itself so that the second man received more support than the first man, as in the dominant pattern. This pattern tended to remain fairly constant within the sessions in simulated groups. In peer groups, the modal change was gain, but this did not reach significance.

Dominant patterns exhibited significant differences in the number of gains and losses in family and peer groups. In family groups the most active gained; in peer groups he lost. In both kinds of groups the more active pair tended to gain, as far as modal shifts were concerned. In simulated groups, most active persons gained in net support while the other positions remained relatively constant.

These results failed to confirm Mills' finding that the solidary pattern trend established in the first part of the session was accentuated in the last part. Strodbeck's results also had failed to support the unique position of the solidary pattern. In the present groups the third man in all instances tended to gain support while the second man gained or lost moderately. The solidary pattern in these groups does not seem to epitomize the true coalition of two against one as Mills found. Except for the conflict pattern among family groups, the third man consistently tended to gain support across time. As far as temporal gain or loss in support is concerned, the temporal stability of support activity does not seem to be determined by the support pattern in the more active pair.

One other temporal analysis was done by Mills that was not attempted for the present data, the tendency of patterns to shift to other patterns

over time. Mills found that solidary groups did not shift, but that dominant patterns tended to break down into conflict patterns, and conflict patterns tended to evolve into solidary patterns.

The results of this analysis up to this point may be summarized in regard to the major hypotheses of this study as follows:

Hypothesis 1 states that coalitions in these groups can be described by Mills' patterns of support based on the two most active members, that these patterns will be internally differentiated, and that they will be stable over time. Evidence in support of this hypothesis includes: (1) Whether based on total sample median support rates or on separate median indices in family, simulated, and peer groups, these groups can be classified into solidary, conflict, contending, and dominant patterns according to the support activity of the more active pair. (2) The patterns were internally differentiated. In all patterns the least active man tended to be opposed by the most active, less so by the middle active, and in turn, tended to oppose the more active pair. Thus, any of the patterns in this sample could qualify as a coalition in regard to the relative position of the third man. The solidary pattern did not exemplify the true coalition as had been expected, however. (3) Temporal stability was demonstrated for activity position but not for support activity. Except for family groups, solidary patterns maintained constant activity positions. Contending patterns were constant for all types of groups. Conflict patterns were unstable in all groups, while dominant patterns were stable only in simulated groups. Temporal gain or loss in support received—a second component of temporal stability—proved to be a more complex factor. Conflict patterns resulted in a relatively low level of

support exchange. The other patterns showed no tendency to remain constant in the distribution of support across time. Temporal stability of support activity did not characterize support patterns in this sample.

Hypothesis 2, that support activity in these groups will vary as a function of both group composition and initial agreement-disagreement, was supported in the total sample for the former variable but not for the latter. Data relevant to this hypothesis are as follows: (1) A comparison of family, simulated, and peer data on two measures of support activity indicated significantly less support exchange among family groups than among simulated and peer groups. Support rates in the latter were highly similar. An examination of support patterns in the agree and disagree conditions showed that this deviation in family groups was largely due to the marked antagonism found in situations where the active pair was in conflict, particularly when there was initial disagreement among the members on the topic of discussion. (2) A further analysis of the other major variable, initial agreement-disagreement, revealed no overall difference in support activity in these groups which could reliably be attributed to this variable. Of the two principal experimental variables involved in this study, therefore, only the group composition variable proved significant. While a particular combination of support activity in the dominant pair in a disagree condition seems to have differentially affected family groups, initial agreement-disagreement was for the larger picture insignificant.

#### Support Activity of Fathers, Mothers, and Sons

The above analysis was based on rank order of contributions, disregarding whether the participants were fathers, mothers, or sons in the

family groups. Since each of these persons served in simulated and peer groups, the following analysis was done which was not possible in the earlier studies.

Hypothesis 3 states that support activity of fathers, mothers, and sons, in simulated and peer groups would be similar to the activity of these persons in family groups. If this hypothesis holds, then activity position in family groups should be maintained in simulated and peer groups. Table 15 presents the relative activity position of fathers, mothers, and sons in the family, simulated and peer groups. The vertical axes of the matrices represents data pertaining to the number of times a family member was first, second, or third in the family and simulated groups, respectively. Along the horizontal axes is given the number of times that person was ranked in each of these positions in the simulated and peer groups, respectively. The main diagonal, when summed, gives the total number of times persons remained in the same activity position for each comparison. The probability of obtaining a certain number of constancies or non-shifts (N-S) was again determined by using the matching problem solution illustrated above for Table 13. Investigation of the table shows that only fathers maintained the relative position in the simulated groups that they held in family groups better than chance expectancy ( $p < .01$ ). The stability of mothers approached significance ( $p < .10$ ). The position of sons was unstable in all comparisons. In the remaining comparisons across groups, activity position varied no better than chance expectancy.

While fathers alone maintained their relative activity position in simulated groups, it is interesting to note that when these frequencies are ranked (the number of times fathers, mothers and sons occupied an

TABLE 15

RELATIVE POSITION BY RANK ORDER OF CONTRIBUTIONS OF FATHERS, MOTHERS AND  
SONS IN FAMILY, SIMULATED AND PEER GROUPS

	Family Simulated				Family Peer				Simulated Peer			
	1 2 3				1 2 3				1 2 3			
Fathers	1	14	6	1	1	7	7	7	1	10	5	6
	2	4	2	1	2	6	0	1	2	2	3	5
	3	3	2	3	3	0	4	4	3	1	4	0
	*N-S=19 (p < .01)				N-S=11				N-S=13			
Mothers	1 2 3				1 2 3				1 2 3			
	1	2	1	2	1	3	2	0	1	2	4	1
	2	2	5	7	2	6	2	6	2	5	3	3
	3	3	5	9	3	3	8	6	3	5	5	8
	N-S=16 (p < .10)				N-S=11				N-S=13			
Sons	1 2 3				1 2 3				1 2 3			
	1	1	7	2	1	3	5	2	1	4	3	2
	2	6	4	5	2	6	4	5	2	4	5	6
	3	2	4	5	3	2	3	6	3	3	4	5
	N-S=10				N-S=13				N-S=14			

\*N-S refers to the number of non-shifts in a matrix. Activity position in the respective groups is indicated by arabic numerals (1,2 and 3) along the horizontal and vertical axes.

TABLE 16

RELATIVE RANK BY ROLE IN FAMILY AND SIMULATED GROUPS\*

Activity	Rank		
	Fathers	Mothers	Sons
1st	1	3	2
2nd	3	2	1
3rd	3	1	2

\*Ranks are identical for both types.

activity position) simulated and family groups are identical. The rankings are given in Table 16. Hypothesis 3, therefore, for activity stability across group composition, was confirmed only for fathers in simulated groups.

A second prediction related to this hypothesis is that the support activity directed toward the teenage boys ought to be similar in family and simulated groups. In these groups, in the disagree condition, sons were always in the minority position. Mother and father figures were in agreement against him on a particular discussion. If this expectation is confirmed, the support given to sons under these conditions should be similar in family and simulated groups. The following data provide mild support for this hypothesis.

That agree-disagree did not significantly effect the amount of support activity in family or simulated groups is evident from an inspection of Table 17. This presents chi square values for deviations of mean support intake of sons in agree and disagree conditions. Cell values represent the total number of times sons were above or below the mean RTSI for each support pattern. Table 17 gives this information for family and simulated groups. Neither chi square value was significant. While this is not a very sensitive comparison, it lends mild support to the prediction that family group support of the sons would be similar to the support given to sons in simulated groups. This lack of significance is, of course, in accord with the general finding that initial agreement-disagreement did not significantly affect support activity in these groups.

One other comparison also failed to support Hypothesis 3. Table 18 reports the number of times in family and simulated groups that sons were

TABLE 17

DEVIATIONS OF SONS FROM MEAN RTSI FOR INITIAL AGREEMENT-DISAGREEMENT

	<u>Families</u>		$\chi^2$	<u>Simulated</u>		$\chi^2$
	Above	Below		Above	Below	
Agree	11	7	.98*	3	15	1.32*
Disagree	8	10		6	12	

\*NS (1 df)

TABLE 18

DEVIATIONS OF SONS FROM MEAN RTSI IN  
FAMILY AND SIMULATED GROUPS

	Family	Simulated	$\chi^2$
Above	19	9	26.40*
Below	17	27	

\*  
p < .001 (1 df)

above or below the mean support intake (RTSI) in the support patterns. Contributions to chi square of these deviations was highly significant ( $p < .001$ ). Inspection of the frequencies indicates that the distribution for families is about chance expectancy. In simulated groups, however, more often than chance sons received less than the mean amount of support from the other two members. An explanation for this may be that, in spite of the greater support activity in simulated groups, sons were not as likely



to benefit from it. A casual observation of several groups would indicate that more of the acts directed toward sons was of a task oriented nature, discovering the opinions of the teenager.

In summary, there is only mild support in these results for Hypothesis 3. Family support rates and activity levels do not seem to be related to the performance of family members in simulated and peer groups. Fathers alone significantly maintained their activity position in simulated groups. Mothers showed a tendency to remain constant which did not reach significance. Sons tended to be quite inconsistent. The overall trend in activity level for simulated and family groups was similar: fathers tended to be most active, sons middle, and mothers least.

## CHAPTER IV

### DISCUSSION

This discussion will have two purposes. First these results will be evaluated in terms of the three hypotheses and compared to the findings of earlier studies. Secondly, the significance of the findings and implications for future research will be assessed.

This investigation sought to test the generality of Mills' patterns of support activity in describing coalitions in three-person family and ad hoc simulated family, and peer groups. These results not only permit a comparison with Strodtbeck's family groups, but also constitute a replication of Mills' procedure with ad hoc groups, since all persons served in all levels of group composition.

Hypothesis 1 stated that coalitions would form in these groups, that they could be described by Mills' patterns, and that the patterns would be internally differentiated and temporally stable. It was found for all groups that the three participants could be ranked in order by the frequency of their contributions, as scored by Bales' Method. Likewise, it was possible to assign each group to one of the four support patterns described by Mills in terms of the distribution of support in the active pair. There was no reliable difference between families and ad hoc groups in the occurrence of these patterns, nor was there a tendency for any of the patterns to occur more often than any of the others.

These support patterns are of no predictive value, however, unless it can be demonstrated that the less active third man is, in fact, in a less favorable position in his receipt of support from the other members than are the more active members. Mills found one pattern, the solidary, which met this requirement, epitomizing a true coalition of a pair against a third. Strodbeck failed to find any such pattern in his families. The present results failed to support fully either of the earlier studies in regard to the position of the third man relative to support received by most, middle, and least active persons. In the total sample, activity position was not found to be a significant variable. However, when the patterns were separated out and compared by chi square analysis, it was found that, more often than by chance, the least active man would be below the mean rate of total support intake for a particular pattern. For this sample, therefore, not only the solidary pattern exhibited a differentiation of support activity in the three-person group: all patterns did. No matter what the pattern of support in the active pair, the third man was likely to remain in a relatively unfavorable position. Thus, our results confirm neither Mills' nor Strodbeck's results. By this criterion, any pattern could qualify as a genuine coalition.

The failure of both these results and Strodbeck's to replicate the unique significance which Mills' assigned to the solidary pattern not only limits the generality of his findings to family groups, but raises the question of its utility as a predictor of support relations in ad hoc groups as well. One possibility is that Mills' results were an artifact of his particular population or task (in spite of our scaling of his and Strodbeck's tasks). Secondly, it is true that Mills' groups had a

longer period of interaction than our groups. Perhaps, had the duration of the interaction been extended, a pattern more like Mills' may have resulted. A third possibility is that his results represented an over-conformity to hypothesis. This is not probable, however, since he did a blind analysis of his data which attempted to determine, post hoc, whether the groups divided into genuine coalitions.

Based on the present sample, therefore, it may be concluded that Mills' patterns of support are not differentially useful in predicting support exchange in the three-person group. On the other hand, the least active man is likely to be in a less favorable position in the relative support he receives, regardless of the pattern. This is in accord with the findings of Riecken and Bales, cited above, that more active persons tend to receive more support than less active members of groups. While these results do not confirm Mills' findings, the pattern of support activity in the dominant pair did result in different levels of support activity within a pattern (see Tables 9 and 10 above), as well as different degrees of stability. When the patterns were ranked, solidary patterns across groups demonstrated more support activity. Conflict produced least, especially among families, and contending and dominant patterns ranked intermediately and were similar. At this level, Mills' support patterns seem to have some predictive utility, even though they do not differentially predict the status of the third man as he expected.

In addition to internal differentiation, temporal stability should characterize a genuine coalition. Mills' found that the solidary pattern also met this second criterion, both in the stability of rank

order of contributions and in the perpetuation across time of the patterns of support differentiation. Except for the position of the most active man in the contending and dominant patterns, Mills found that activity position in other patterns were unstable. Strodbeck also found the solidary pattern to be stable, but, contrary to Mills, found the conflict pattern also to be relatively stable. The present results, however, both confirm and fail to confirm the earlier findings. The solidary pattern was again stable except for families, which very narrowly missed significance ( $p=.054$ ). The conflict pattern proved highly unstable and free to vary, confirming Mills' results against Strodbeck's. Contrary to both, the contending pattern was quite stable in all activity positions. Dominant patterns were stable ( $p<.05$ ) in simulated groups only.

Once again, Mills' contention that the solidary pattern alone represents basic differentiating tendencies in the three-person group is not confirmed in this sample. Contending patterns, if anything, were more stable. A conflicting relationship in the dominant pair, however, seems to prohibit the formation of stable activity patterns, confirming Mills' findings.

The present results also failed to confirm Mills' finding that the solidary pattern tended to accentuate its internal differentiation over time. In this sample, not only did the least active man not fare much worse than the pair in the total session, he frequently gained over time in the amount of support he received, while the second man often lost. Except for family groups in the conflict pattern, the supposedly

minor member tended to gain in support received. It may be concluded that stability of support activity in these groups is not determined by the support pattern in the dominant pair.

In summary, Hypothesis 1 was supported to some extent. The groups divided into coalitions of an active pair and a less active third man. These coalitions could be described by Mills' categories of support. Activity positions in solidary and contending patterns tended to be stable, with certain qualifications, in all groups. Dominant patterns were stable only in simulated groups. Internal differentiation was found in all patterns, but this differentiation was not consistent over time. It may be concluded that, in this sample, neither family nor ad hoc groups demonstrated any unique status for the solidary pattern in describing the way coalitions operate in these three-person groups. This conclusion must be further evaluated, however, in view of the results pertaining to Hypothesis 2.

Hypothesis 2 stated that support activity in these groups would vary as a function of group composition (family, simulated, and peer) and as a function of initial agreement-disagreement. These variables were formulated on the hunch that Strodtbeck's failure to replicate Mills' findings with ad hoc groups may have been due to differences in initial agreement as well as to differences in comparison groups. We compared ad hoc and family groups under both conditions and found, contrary to our expectation, that this variable did not reliably influence support activity in the total sample. We wanted to know whether families simply did not act like ad hoc groups or if Strodtbeck's results were due to artifacts of population, setting, task, or initial agreement-disagreement.

An almost inescapable conclusion from these results is that the former hypothesis holds: families seem to differ intrinsically from ad hoc groups in their support activity in all conditions of this study. Simulated family and peer groups were virtually indistinguishable. Families contrasted markedly with both in almost every comparison.

While the level of initial agreement was not significant in the total sample, a further consideration of the results shows support for our prediction concerning both major variables.

Two facts stand out. One is the significantly lower amount of support activity among family groups. This finding confirms Strodtbeck's results in his family groups. Secondly, in the special case of a conflict relationship in the more active pair, family groups were differentiated from ad hoc groups by a marked increase in antagonistic activity. In fact, the conflict pattern seems to have been the principal contributor to the significantly lower rates of support activity exhibited by these families. This finding lends strong support to the initial hypothesis that the conflict and disagreement present in Strodtbeck's design may have contributed to his failure to replicate Mills' results.

This consistent trend for family groups to exhibit less support activity in conflict situations can be related in several ways to Bennis and Shepard's "two part" theory of group development. In the first phase groups should be involved in defining roles and authority relationships. In the time allowed for these groups to interact, the ad hoc groups had time only to begin an initial exploration. Perhaps the set produced by this brevity made a casual, more "agreeable" interchange the only realistic mode of interaction. Since no reward or punishment was contingent on the outcome of their discussions, no real attempt to solve power relations

was attempted. This "nice" interaction would be scored by the Bales Method as positive emotional acts, accounting for the high support activity in the ad hoc groups.

Family groups, on the other hand, with a long history of interaction, ought to fall in Bennis and Shepard's second phase. In this stage it is assumed that authority roles and responsibility assignments have been delegated, as well as techniques for maintaining these relationships. We have seen that family groups exhibited less positive activity than ad hoc groups, particularly so in the special case of a conflict within the more active pair. Except for the first man's active opposition to the third in the contending pattern, other relationships tended to be relatively positive. If Haley's contention is correct--that normal families are adaptable in their forms of interaction--the marked increase in negativity demonstrated by family groups in this special case may be explained by the following rationale. In solidary, contending, and dominant patterns, there is a resolution of sorts in support relationships which might be, in appropriate situations, adopted by families. In conflict patterns, on the other hand, there is a noticeable lack of clearly defined roles. When faced, in this situation, with a readily apparent departure of the son from parental opinions, the family may have attacked the problem of resolving this disagreement directly. This would involve open statements of disagreement, expression of feelings of opposition and, therefore, a predominance of negative emotional activity in the Bales Method. Family rules could tolerate this negativity. Under the circumstances they did not have to be "nice." In



addition, there might be consequences due to the disagreement, post-experimentally, not to be faced by the ad hoc groups. In other words, prior history and the promise of continued interaction made it possible and perhaps necessary for family groups to resolve differences more directly than ad hoc groups. Without a challenge families behaved much as ad hoc groups; faced with a conflict or disagreement they mobilize quite differently in dealing with it.

Hypothesis 3 predicted that support activity in simulated and peer groups would be similar to support activity in families, since the groups were composed of the same persons. In view of the discussion of Hypothesis 2, it is hardly surprising that only mild support was found for Hypothesis 3 in these groups. Simulated families acted like ad hoc peer groups, not like families, in their distribution of support. The general failure in these groups for initial agreement or disagreement to significantly affect the amount of support directed toward sons is consistent with the over-all effect of this variable. Interestingly enough, even though sons were in the minority position in families, they did not get less support from the other members in the conflict situation, but only shared in the generally lower level of support activity. A second similarity between family and simulated groups, which seems to give some minor support to Hypothesis 3, was the tendency of fathers in family and simulated groups to maintain their activity position. Fathers tended to be most active in both groups. (This comparison was not meaningful from simulated or family groups to peers. The sample would necessarily be attenuated—only one-third of the fathers could be first.) This may represent a confirmation of Leik's (1963) observation that fathers adopt—or are

permitted--socially acceptable roles in public. Accordingly, fathers tended to be dominant in rank order of contributions in families and in simulated groups. Perhaps, therefore, some carry-over of this dominant role expectancy occurred from family to simulated groups.

It may be concluded that neither families nor ad hoc simulated and peer groups demonstrated the regularities of support activity which Mills' found in ad hoc groups. His solidary pattern seemed no more predictive of the distribution of support within these groups than did the other patterns. The strong stability of the contending pattern in these groups suggests that the solidary relationship may be but one of a number of other equally viable possibilities for coalitions in three-person groups.

Although the third man, more often than can be attributed to chance alone, was supported at less than the mean rate in each of the patterns, his general tendency to gain support makes it very difficult to describe him as an isolate. The irregularities in support intake across time in these groups (family and ad hoc) may be traceable to differences in the use of support within the triad in initiating, rewarding, and punishing the behavior of the members. Mills (1956), in a later discussion of his original 43 groups, suggested that the middle man particularly may serve in both a rewarding and punishing role. He assumed that most of the punishing responses were directed toward the isolate. Our groups, as we have seen, did not so clearly demonstrate this latter characteristic.

The failure of Strodbeck's and the present groups to confirm Mills' findings suggest that this method of analysing support activity may be less than adequate in the study of coalitions. The strong tendency of solidary and contending patterns to form stable activity positions, together with the work of Vinacke and others, seems to support Simmel's contention that coalitions do form in the triad, whether family or ad hoc. A disadvantage of Mills' categories is not that they do not occur with sufficient regularity. It is, rather, that these patterns do not take into account the full range of possibilities in the triad. It is conceivable that, where the dominant pair are in alliance, or when in a non-reciprocal relationship, that support and non-support activity may have quite wide ranging functions in controlling the behavior of members. In itself, a measure of support does not give a satisfactory index of group performance in the triad.

It is suggested that coalitions should be assessed by performance measures which are independent of support activity as such. Strodbeck, for example, used an arbitrary weighting of decisions won as an index of power in his groups. Vinacke's procedures also permitted a direct measure of coalitions in his groups in their solutions to an economic game. If such measure of coalitions were used, support exchange between members could then be viewed as a means by which members achieve the coalitions involved in power tactics, as reinforcing or punishing methods of gaining and exercising power within the group. It is anticipated that support activity could then be related to the general body of learning theory, particularly in view of the growing interest in social reinforcement (e.g., Kanfer, et al., 1963) in the control of human behavior. The

formation of coalitions could then be viewed as a functional tact in groups process and support activity as a means of attaining individual and group goals.

## CHAPTER V

### SUMMARY

This study was conceived as a further investigation of the formation of coalitions in three-person family and ad hoc groups. Mills had identified a solidary pattern in ad hoc groups which characterized a genuine coalition. The solidary pattern was internally differentiated and stable over time. The more active pair supported each other against the less active third man. This trend was accentuated over time and other patterns of support tended to resolve into the solidary. Strodtbeck failed to replicate Mills' results with three-person family groups. He found no pattern which satisfied Mills' criteria for a genuine coalition. Considerations of differences in tasks, populations, settings, and level of initial agreement-disagreement between the two studies led to the conclusion that Strodtbeck's report may not have permitted a satisfactory test of the generality of Mills' findings to family groups.

Accordingly, this study permitted a comparison of support activity in family and ad hoc groups (simulated family and peer) with population setting, and task differences held to a minimum. By including groups in initial agreement and in initial disagreement it was possible to assess the effect of this variable on support activity in all levels of groups composition.

Thirty-six families of mother, father, and teenage son participated on a voluntary basis. Eighteen families were assigned randomly to an

agree condition, and eighteen to a disagree condition. This variable was, therefore, represented by independent samples. Group composition was represented by a correlated sample, since all subjects served in all levels (family, simulated, and peer). This arrangement produced a  $3 \times 2$  factorial design with 18 three-person groups in each cell.

Data were obtained from ten-minute discussion sessions scored by the Bales Method of interaction process analysis. Subjects were instructed to reach a consensus of opinion on items derived from a checklist of opinion statements. Items were assigned for discussion in which half the groups were in initial agreement and half in initial disagreement. In family and simulated groups teenage sons were in the minority. In peer groups this position was randomly assigned. Observations were made in a laboratory setting.

Results generally failed to support in family or ad hoc groups Mills' finding that the solidary pattern epitomized a genuine coalition. In this sample the groups could be assigned to one of four support patterns (solidary, conflict, contending, dominant) on the basis of the support activity in the more active pair. However, in these groups the less active man in all patterns was opposed by, and tended to oppose, the pair. The patterns, therefore, were not differentially predictive of the support activity in the group regarding the third man. Temporal stability for activity position was demonstrated for simulated and peer groups in the solidary pattern (families narrowly missed significance), and for all groups in the contending pattern. The differentiation of support activity in this pattern, however, did not demonstrate temporal stability.

Families demonstrated significantly less support activity than simulated and peer groups, which tended to act alike. Initial agreement-disagreement did not significantly effect support activity in the total sample, but was seen to be a differential factor for families in the special case of a conflict relationship in the dominant pair when in a disagree condition. This special case seemed to be the principal source of the significantly lower rates of support activity among families.

Only modest support was obtained for predictions that support activity of fathers, mothers, and sons in simulated and peer groups would resemble that in families. Positive evidence included the tendency of fathers in family groups to maintain their activity position in simulated groups. Secondly, a chi square comparison of support received by sons in initial agreement-disagreement did not differ between family and simulated groups. Negative evidence included the finding that more often than chance sons received less than the mean rate of support intake in simulated groups. This finding did not prevail in families.

These results were discussed in relation to earlier studies as tending not to support Mills' findings. Strodtbeck's conclusion that the solidary pattern did not represent differential patterns of support activity was confirmed in these groups with some qualifications. Mills' patterns seem to have some predictive utility: solidary and contending patterns were stable; conflict relationships seem to prevent the development of stable support patterns. The significance of this latter pattern for family groups, particularly when in initial disagreement, was discussed in terms of Bennis and Shepard's two-part theory of group development. Families deal differently with disagreement than do ad hoc groups.

It was concluded that Mills' support patterns, based on measures of support activity, are not adequate for describing the range of viable possibilities for coalitions in the three-person group, whether family or ad hoc groups. It was suggested that a more useful understanding of support activity could be obtained by investigating the uses of support acts in the control of behavior by social reinforcement. Coalitions ought to be formed, partly at least, by the use of such social reinforcement methods in the attainment and utilization of power in reaching group and individual goals.



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## APPENDICES

## APPENDIX A

## SAMPLE TELEPHONE COMMUNICATION TO FAMILIES

"My name is Jack Bowen and I am a graduate student in psychology at the University of Florida. I am calling to invite your family to participate in a study of how teenage boys and their parents work together in making decisions. The study is being done by me as part of my doctoral studies. Dr. Marvin Shaw of the Department of Psychology is supervising the project.

"We have selected your family from a list of Gainesville High School and P. K. Yonge students. While there may be more children in your family, we are asking only that you, your son \_\_\_\_\_, and your wife (husband) participate.

"What we want you to do is basically this. We will ask you to meet with me and two other students at the University of Florida Teaching Hospital for about an hour and a half one evening at a time convenient to you. The reason for meeting there is that we have been able to secure the use of several rooms in the same general area. At the same time two other families of high school students will meet with us. We will ask you to discuss some problems that we think will be of interest to you as teenagers and as parents of teenagers. First, we will ask you to do this as a family. Next we will ask the family groups to divide up in such a way that you will then discuss another issue with another parent and another son. This gives us a comparison group that is like a family but not related. Lastly, we will ask you to do a similar task in groups composed of all fathers, all mothers, and all sons. Each of the discussion periods will last about ten minutes. The rest of the time will be spent in organizing."

## APPENDIX B

## TRAINING OBSERVERS IN THE BALES METHOD

Stage 1.—The first step in observer training was familiarization with the rationale behind the Bales Method. Observers read Bales' monograph (1950), then memorized the description of the twelve categories, familiarizing themselves with the examples given in an appendix.

Stage 2.—After observers had become sufficiently familiar with the categories, taped transcripts of interaction sessions were scored to achieve proficiency in unitization (breaking down a record into scorable acts) and categorization (assignment of acts to categories).

Stage 3.—From typed transcripts, observers then progressed to the scoring of recorded tapes of group discussions and then to live sessions. After several live sessions raters seemed to be approaching close agreement in unitization and categorization. By the end of six to eight sessions scoring the same groups, rank order correlations were beyond .90 in most cases. At this point, except for brief periodic "refereshers" sessions, training was discontinued and experimental sessions proper were begun.

## APPENDIX C

## OPINION QUESTIONNAIRE

After reading each of the following 32 statements, please check on the answer sheet whether you agree or disagree with the opinion expressed in the statement. Please do not compare answers.

1. Persons of an older generation are usually so decided in their ways that it is a waste of time to try to reason with them.
2. Curfew hours when teenagers have to be off the streets should be established in most American cities to help curb juvenile delinquency.
3. Youthful offenders should be tried by courts composed of jurors their own age rather than by adults who do not understand the way teenagers feel.
4. Until a person becomes self-supporting his parents have the right to know where he is at all times.
5. Each generation must establish for itself standards of right and wrong in regard to sexual behavior.
6. Persons who oppose this nation's involvement in the Viet Nam war should be allowed to work among the poor instead of serving in the military.
7. Religious instruction of children is the obligation of parents and should not be left up to the church or to the schools.
8. Parents have the right to expect their children to abide by their standards of personal conduct without question as long as they support them in their own homes.
9. Disagreements between parents and children could be resolved best by deciding the issues openly in a family meeting.
10. Every American should support the national government in the war in Viet Nam whether or not he agrees with our policy in that conflict.
11. Since this nation has a decidedly religious heritage, the Supreme Court failed to support that heritage when it declared public prayers in the schools to be unconstitutional.
12. Bible readings ought to be included as a regular part of the public school program of instruction.

13. The practice of universal military service as it now operates is the only fair way to make sure that everyone does his share in defending the country.
14. A high school student should not be allowed to have a car unless he can earn the money to operate the machine.
15. Physical punishment is a much more effective means of disciplining children than the mere withholding of privileges.
16. War will continue to be a threat to civilization as long as there are hungry people in the world.
17. The press, radio, and television is unfair in its picture of American teenagers in giving so much attention to juvenile offender, since most teenagers are law abiding citizens.
18. The trouble with children nowadays is that parents give in to them too easily.
19. A person's personality is largely determined by heredity and experience has relatively little to do with the kind of person he becomes.
20. Parents are justified in trying to control their children's choice of friends because people tend to become like those with whom they associate.
21. Team sports are an excellent way to build character, but too much emphasis is placed on sports in high schools.
22. Teenagers would be happier if their parents took a more active interest in their affairs.
23. Parents should help their children avoid mistakes in life by making available to them the lessons they have learned in their own experiences.
24. Teenagers must be allowed to make their own decisions, since they can only grow by profiting from their own mistakes.
25. Parents have no financial responsibility to their children after they reach the end of their high school years.
26. Children should make provisions for taking care of their parents in their own homes when the parents are old.
27. Teenagers should not be allowed to marry until they can be self-supporting.

28. Sex education should be handled by parents, since attitudes and information gained from other sources is often untrue.
29. Loyalty to family ties should come before all other obligations.
30. Teenagers would act more maturely if adults did not try to treat them so much like children.
31. A person should do what he knows to be his duty without expecting any reward for doing right.
32. There is no situation where a person can justify the use of force or coercion in changing another person's way of thinking or believing.



APPENDIX D  
ORDERS OF EXPERIMENTAL VARIABLES BY SESSIONS\*

Session	Initial Agreement- Disagreement	Group Composition		
1	A	P	S	F
2	D	P	F	S
3	A	S	F	P
4	D	F	S	P
5	A	S	P	F
6	D	F	P	S
7	A	S	F	P
8	D	F	S	P
9	A	F	P	S
10	D	P	S	F
11	A	S	P	F
12	D	P	F	S

\*A = Initial agreement

D = Initial disagreement

F = Family groups

S = Simulated family groups

P = Peer groups

## BIOGRAPHICAL SKETCH

The writer was born in Reidsville, Georgia, September 1, 1936. He holds degrees from Aurora College (B.A., 1958), Garrett Theological Seminary (B.D., 1961), and from the University of Florida (M.A., 1963). He has also studied as a special student in the Department of Psychology, Northwestern University (1961-1962). During this latter period he was employed as a child-care worker at Ridge Farm, Lake Forest, Illinois, a residential treatment center for children.

Internship in clinical psychology was completed in April, 1966, at the University of Florida Teaching Hospital, Gainesville, Florida. During the summer of that year he served as an Interim Instructor at the University of Florida, teaching a course in introductory psychology. Following completion of the Ph. D., the writer has accepted a position as Staff Psychologist at the Camarillo State Hospital, Camarillo, California.

The writer also holds a commission as a staff officer in the United States Naval Reserve.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1966

E. Ruffin Jones  
Dean, College of Arts and Sciences

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